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The model of environments enhancing autistic children's development

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Abstract

This research aims to study environmental factors and activities which enhance autistic children's development in order to formulate modeling of appropriate environment. The researcher explores the internal and physical factors of environments that reinforce the development of autistic children. The researcher is convinced with the hypothesis that motivating activities under appropriate physical circumstances can enhance autistic children's development. The relevant approaches and theories include the particular characteristics of autistic children, child developments, and environmental factors. The researcher observed and recorded activities and children's behavior in the circumstances provided. It was found that the area of activities should be clearly specified and limited to minimize a stimulus from outside sources. So, children can have better concentration on their activities which enhance their developments.

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1. Rationale and backgrounds

Autism is a disorder of social development, language and communication. Autistic children have inappropriate behaviours and attention. Autism varies in symptoms. One of many characteristics is that autistic children isolate themselves and show less attention to their environments. They hardly speak or have difficulties in communication. Some do not respond or have less eye contact when they are called. They neither care for other children nor have proper plays. Autistic children obsess with certain thing and have difficulties in imagination. They sometimes have attention deficit hyperactive disorder. Since they are development impaired in personal interaction development, they do not accept stimulus from outsiders. In other words, they respond to stimulus for a short period and are often easily distracted by the surrounding stimuli (Academic Supervisory Division, Department of General Education, Ministry of Education 2001).

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It is believed that having a firm concentration on one's thought and action will result in one's wisdom and intellect. Due to the functional impairment of the central part of their brain as well as other neural transmitter malfunction, autistic children hardly concentrate on their activities. This leads to their lack of opportunities to participate in social interactions. Consequently, an attempt to develop their concentration is very important and needed. Behavior conditioning and learning enhancement can maintain appropriate behaviours; limit improper actions; and formulate desired behaviours. Teaching them in real situations will best reinforce their social skills.

Learning environment is important in promoting the development of autistic children. Environments can attract and stimulate their interest when they participate skill enhancing activities (Karahoca et al., 2010).

Therefore, to create an appropriate environment to enhance and develop their behaviours, emotion and society will accommodate autistic children to live their lives like normal children.

There are various activities to enrich the autistic children's development. The most popular method which is allocated in a curriculum of many special education schools is activity therapy. Activity therapy is an activity which helps develop emotion, intellect, concentration, creative thinking as well as the muscle fibers and motor skills. Besides, this therapy helps stimulate communication and enhance social skills.

According to afore mentioned rationale, the reinforcement of special education for children with special needs is very necessary, especially for autistic children who have concentration deficit in their learning process. In the same way, providing an appropriate environment for their learning is also needed to be launched gradually. As a result, the study of physical environmental factors in an area in which special education is provided to promote autistic children's developments is conducted. Under the appropriate circumstances and activities that enhance their development, this research will later lead to the appropriate modeling of environment for autistic children.

Thus, the purpose of this paper is to study essential factors which affect in designing proper environments, activities and the modeling of environment enhancing autistic children's development. The research question is; what are the internal physical factors of environment which enhance autistic children's development? The objectives of this research are to 1) study the specific characteristics of autistic children, 2) explore skill enhancing activities 3) study the physical environment affecting the efficiency of skill enhancing activities and 4) to formulate the model of environment which promotes autistic children's development.

Hypothesis: The study proposed a hypothesis that enhancing activities for autistic children under the appropriate circumstances result in their proper development.

2. Concepts and Theories

2.1 Concept of autism

Autism is a disorder of neural development and impairment which include social interaction, communication, emotion, repetitive behaviors, imagination, and sensory abnormalities as well as other symptoms. For social interaction impairment, autistic children have difficulties in interacting with people and their environments. They have less eye contact, facial expression; then, they have less interaction with other people. Second, communication impairment includes language usage, comprehension, meaning and communication. Behavioral and emotional impairments are repetitive abnormalities such as moving/playing their hands or turning around, Some children stick on to something; obsess with certain objects; and have limited interest. Some cannot adjust themselves to changes in daily life. Some autistic children express undesirable behaviors which are not appropriate to their age. For the impairment of repetitive behavior, imagination and sensory skills, they have difficulties in controlling and coordinating their motor skills such as muscular mechanism. For other symptoms, some children have restless behaviors while some are slow and inactive.

Learning limitation and conditions include language and communication, social interaction and emotion, behavior and repetition, sensory perception, imaginative thinking, learning ability and physical development.

Influential factors during pregnancy and child delivery as well as biological factors such as chemical unbalance in the brain, neural system can cause the malfunction of brain which results in autism.

Autistic Symptom Levels Mild autism or high-functioning autism refers to the children who are normally or more intellectual. These children have better language development but still encounter social interaction impairment and perception of other people's emotion or feeling. Moderate autism indicates the slow development of language and communication, social interaction, learning ability as well as self-reliance and self-stimulating behaviors. Severe autism is shown in slow developments of all aspects and can occur with retarded and violent behavior.

In this research, autistic children are divided into different groups according to their symptom levels in order to study their characteristics. Moreover, the researcher can identify particular behaviors which are shown and driven by internal factors during the study. The limited area of research can help categorizing conditions of autistic children based on the hypothesis.

2.2 Concept of Development

Activity therapy is a healing art which promotes, prevents, cures and rehabilitates physical and mental health regarding to the foundation of medical sciences and fundamental theories of psychology.

Development activities are designed to promote the improvement of emotion, intellect, concentration, creative thinking as well as muscle fiber development and physical movement coordination. Furthermore, the activities also enhance and stimulate communication and social skills, repair, maintain and develop mental and physical health.

In this section, the literature review is conducted to study activities used as a tool to collect the data by observing children's behaviors under the study circumstances.

2.3 Concept of environment

The ultimate purpose in accommodating the environment for autistic children is to enable them to learn and be self-motivated to do things. Structured Teaching is applied to enable students to understand and complete the tasks by themselves (Kiratinon Chanpraphai, CIA Autism Resource Center (Singapore)) under the appropriate environment in their classroom (Physical Structure).

The best social enhancement is to teach children in the real circumstance. Children have fewer opportunities to experience varieties in their house while they have more chances to meet people, learn the individual characteristics outside their houses. They learn what others do, play, and even invite other children to join and learn from their activities. Children will perceive and pay more attention to the environment as well as imitate so as to have better development.

In this section, it shows that good environment could enhance and promote autistic children's learning development. Appropriate circumstance can affect autistic children's development in many aspects according to those enhancing activities. Especially, peer group learning can contribute to an imitation which is a part of proper development. The study of environment plays an important role in selecting the study area in a classroom.

3. Research Framework

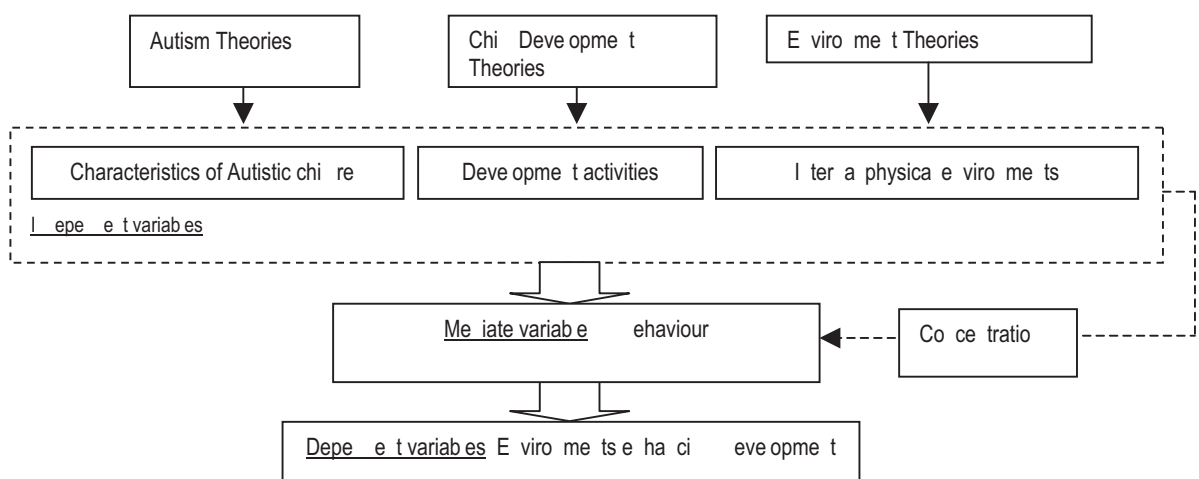


Figure 1. Research Framework

4. Research Methodology

This research focuses on autistic children who are three years of age or older. Autism can be obviously seen when children are three years old. (Sriruan Kaewkangwan, 1982: 208) This can be categorized into three levels: mild autism, moderate autism and severe autism. Autism of each level leads to various behaviors and different levels of sensory perception impairment.

The study was conducted by observing autistic children and the environments in the activity room, Research and Development Center of Autistic Inclusive Education of Demonstration School, Khonkaen University. Based on activities that enhance the children's skills, the data was collected from

Questionnaires about general information of autistic children completed by their mentors

Video records and notes of autistic children's behaviors in details

Survey and records of physical environments in the study area

These research tools were used to compare the differences of activities in the environment. In recording their behaviors, the researchers concentrated on the period of their attention, patterns and frequency of behaviors, the way they look at things, touch, make sounds as well as their interaction during the activities.



([http:// home.kku.ac.th/autistic/](http://home.kku.ac.th/autistic/))

Figure 2. environments in the activity room

4.1 Significances of the study

This research can lead to 1) better understanding of activities that enhance autistic children's development; 2) the study of physical environment factors that affect activities and their behaviors, and 3) the model of environment enhancing autistic children's development

5. Research Findings

The results of this study are guidelines to create physical environment in a classroom that enhance appropriate development of the children and their concentration during activities. To design the environment for autistic children, we have to prepare clean, well-ventilated and enough spaces for their activities. Moreover, the room should be divided into sections for group and individual activities. Reading corner or other activities should be initiated. Convenient equipments or facilities should be provided. The room must not be disrupted by noises from outside. More importantly, the area should not be open or accessed to passers-bys or outsiders when they are doing activities in order to minimize the stimuli.

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